Material Safety Data Sheet
I-Adrenaline, 97% (titr.)

ACC# 47808

Section 1 - Chemical Product and Company Identification

MSDS Name: I-Adrenaline, 97% (titr.)
Catalog Numbers: AC400380000, AC400380010, AC400380050, AC400380100
Synonyms: I-3,4-Dihydroxy-á1-(methylaminomethyl)benzyl alcohol; Adrenaline

Company Identification:
Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>51-43-4</td>
<td>L(-)-Epinephrine, 99%</td>
<td></td>
<td>200-098-7</td>
</tr>
</tbody>
</table>

Hazard Symbols: T
Risk Phrases: 23/24/25 33

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: slightly grey fine powder.
Target Organs: None.

Potential Health Effects The toxicological properties of this material have not been investigated. Use appropriate procedures to prevent opportunities for direct contact with the skin or eyes and to prevent inhalation.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation: Remove from exposure and move to fresh air immediately.
Notes to Physician: Treat symptomatically.

Section 5 - Fire Fighting Measures
General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.
Flash Point: Not available.
Autoignition Temperature: Not available.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: ; Flammability: ; Instability:

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Sweep up, then place into a suitable container for disposal.

Section 7 - Handling and Storage

Handling: Not available.
Storage: Keep refrigerated. (Store below 4°C/39°F.)

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>L(-)-Epinephrine, 99%</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: L(-)-Epinephrine, 99%: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear safety glasses and chemical goggles if splashing is possible.
Skin: Wear appropriate protective gloves and clothing to prevent skin exposure.
Clothing: Wear appropriate protective clothing to minimize contact with skin.
Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

Section 9 - Physical and Chemical Properties

Physical State: Crystalline powder
Appearance: white to light beige
Odor: none reported
pH: Not available.
Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: 208-211 C  
Decomposition Temperature: Not available.  
Solubility: Not available.  
Specific Gravity/Density: Not available.  
Molecular Formula: C9H13NO3  
Molecular Weight: 183.21

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.  
Conditions to Avoid: Not available.  
Incompatibilities with Other Materials: Acids - acid chlorides - acid anhydrides - oxidizing agents - light.  
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen.  
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:  
CAS# 51-43-4: DO2625000  
LD50/LC50:  
CAS# 51-43-4:  
Skin, rat: LD50 = 62 mg/kg;  
Carcinogenicity:  
CAS# 51-43-4: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.  
RCRA U-Series: None listed.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>Shipping Name:</th>
<th>No information available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class:</td>
<td>6.1</td>
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<tr>
<td>UN Number:</td>
<td>UN2811</td>
</tr>
<tr>
<td>Packing Group:</td>
<td>II</td>
</tr>
</tbody>
</table>

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 51-43-4 is listed on the TSCA inventory.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs
CAS# 51-43-4: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

SARA Codes
CAS # 51-43-4: acute, chronic.

Section 313
No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 51-43-4 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts. California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:
T

Risk Phrases:
R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R 33 Danger of cumulative effects.

Safety Phrases:
S 23 Do not inhale gas/fumes/vapour/spray.
S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)
CAS# 51-43-4: 3

Canada - DSL/NDSL
CAS# 51-43-4 is listed on Canada's DSL List.
Section 16 - Additional Information

**MSDS Creation Date:** 8/24/1997  
**Revision #2 Date:** 3/18/2003

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